UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,278	05/08/2001	Thomas M. Rothwein	M-11555 US	3426

33031   7590   01/13/2004

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ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 01/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _16 October 2003_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-55_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-55_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: .

DETAILED ACTION

Response to Amendment

1.   The amendment filed October 16, 2003 has been entered. The title has been

amended. Claims 1, 6, 11, 16 and 21 have been amended. Claims 26-55 have been

added.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

3.   Claims 38-49 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claims 38, 43 recite the limitation "The computer system of arranging object of

claim 11" in line 1. There is insufficient antecedent basis for this limitation in the claims.

Claim 44 recites the limitation "the computer system of arranging object of claim

16" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 44 recites the limitation "the computer code" and "the processor" in line 2.

There is insufficient antecedent basis for this limitation in the claim.

Claims 45-49 recite the limitation "the apparatus of arranging object" in line 1.

There is insufficient antecedent basis for this limitation in the claims.

Claims 39-42 are rejected by virtue of their dependencies directly or indirectly

upon the rejected claim 38.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   **Claims 1-55 are rejected under 35 U.S.C. 102(e)** as being anticipated by Greef

et al. (US 6,397,221 B1), hereinafter referred to as "Greef".

       As per claim 1, Greef teaches a method of arranging objects comprising:

- "setting a class hierarchy, wherein the class hierarchy comprises an upper level

   class and a lower level class" at Fig. 3;

- "the objects are members of at least one of the upper level class and the lower

   level class" at Fig. 3;

- "assigning an attribute to the top level class, wherein the attribute describes the

   objects" at Fig. 3, element 94;

- "inheriting of the attribute by the lower level class" at Col. 12 lines 10-40 and

   Figs. 3-4.

- "wherein the attribute is within a first domain with regard to the upper level class"

   at Fig. 2, elements 54, 56, 58, 60 and Fig. 3 element 94.

As per claim 2, Greef teaches the method of arranging objects of claim 1, further comprising: "assigning an attribute to the lower level class, the attribute describing an object that is a member of the lower level class" at Fig. 3, elements 96, 98.

As per claim 3, Greef teaches the method of arranging objects of claim 1, wherein "the attribute comprises a distinctive domain value set" at Col. 12 lines 20-50

As per claim 4, Greef teaches the method of arranging objects of claim 1, wherein "the class hierarchy further comprises a class below the lower level class in the class hierarchy, and further comprising: inheriting of the attribute by the class" at Figs. 4-5 and Col. 12 lines 10-20.

As per claim 5, Greef teaches the method of arranging objects of claim 1, further comprising: "expanding the class hierarchy horizontally by adding a class to the lower level class; and inheriting of the attribute by the class" at Figs. 4-5 and Col. 12 lines10-20.

As per claim 6, Greef teaches a hierarchical class architecture of objects stored in a memory comprising:

- "an upper level class" at Fig. 3, element 88;

- "a lower level class" at Fig. 3, elements 92, 90;

- "wherein the upper and lower level classes are stored in the memory" at Col. 28 lines 25-36;

- "an attribute, wherein the attribute is assigned to the upper level class" at Fig. 3, element 94;

- "the attribute is within a first domain with regard to the upper level class" Fig. 2, elements 54, 56, 58, 60 and Fig. 3 element 94;

- the objects are members of at least one of the upper level class and the lower level class, the attribute describes the objects, and the lower level class is configured to inherit the attribute" at Fig. 3, element 94 and Col. 12 lines 10-40.

As per claim 7, Greef teaches the hierarchical class architecture of claim 6, further comprising: "an additional attribute, wherein the additional attribute is assigned to the lower level class, and the attribute describes an object in the lower level class" at Fig. 3, elements 96, 98.

As per claim 8, Greef teaches the hierarchical class architecture of claim 6, wherein "the attribute comprises a distinctive domain value set" at Col. 12 lines 20-50.

As per claim 9, Greef teaches the hierarchical class architecture of claim 6, further comprising: "a class, wherein the class is below the lower level class in the hierarchical class architecture, and the class is configured to inherit the attribute" at Figs. 4-5, elements 280, 282, 292, 294.

As per claim 10, Greef teaches the hierarchical class architecture of claim 6, wherein "the lower level class is configured to be expanded horizontally by virtue of being configured to provide for addition of a class, and the class is configured to inherit the attribute" at Figs. 4-5 and Col. 12 lines 10-50.

As per claim 11, Greef teaches a computer system comprising:

- "a processor, a computer readable medium coupled to the processor; and computer code, encoded in the computer readable medium, configured to cause

the processor to: set a class hierarchy, wherein the class hierarchy comprises an upper level class and a lower level class" at Fig. 3 and Col. 33 lines 15-35;

- "the objects are members of at least one of the upper level class and the lower level class" at Fig. 3;

- "assign an attribute to the top level class, wherein the attribute describes the objects" at Fig. 3, element 94;

- "and provide inheritance of the attribute by the lower level class" at Col. 12 lines 10-20.

- "wherein the attribute is within a first domain with regard to the upper level class" at Fig. 2, elements 54, 56, 58, 60 and Fig. 3 element 94.

As per claim 12, Greef teaches the computer system of claim 11, wherein "the computer code is further configured to cause the processor to: "assign an attribute to the lower level class, the attribute describing an object that is a member of the lower level class" at Fig. 3, elements 96, 98.

As per claim 13, Greef teaches the computer system of claim 11, wherein "the attribute comprises a distinctive domain value set" at Col. 27, lines 30-45.

As per claim 14, Greef teaches the computer system of claim 11, wherein "the class hierarchy further comprises a class below the lower level class in the class hierarchy, and the computer code is further configured to cause the processor to: provide inheritance of the attribute by the class" at Fig. 5, elements 286, 288.

As per claim 15, Greef teaches the computer system of claim 11, wherein "the computer code is further configured to cause the processor to: expand the class

hierarchy horizontally by adding a class to the lower level class; and provide inheritance of the attribute by the class" at Fig. 5, elements 298, 300.

As per claim 16, Greef teaches an apparatus for arranging objects comprising:

- "means for setting a class hierarchy, wherein the class hierarchy comprises an upper level class and a lower level class" at Fig. 3;

- "the objects are members of at least one of the upper level class and the lower level class" at Fig. 3;

- "means for assigning an attribute to the top level class, wherein the attribute describes the objects" at Fig. 3, element 94;

- "means for inheriting of the attribute by the lower level class" at Col. 12 lines 10-20.

- "wherein the attribute is within a first domain with regard to the upper level class" at Fig. 2, elements 54, 56, 58, 60 and Fig. 3 element 94.

As per claim 17, Greef teaches the apparatus of claim 16, further comprising:

- "means for assigning an attribute to the lower level class, the attribute describing an object that is a member of the lower level class" at Fig. 3, elements 96, 98;

As per claim 18, Greef teaches the apparatus of claim 16, wherein "the attribute comprises a distinctive domain value set" at Col. 27 lines 30-45.

As per claim 19, Greef teaches the apparatus of claim 16, wherein "the class hierarchy further comprises a class below the lower level class in the class hierarchy,

and further comprising: means for inheriting of the attribute by the class" at Fig. 5,

elements 286, 288.

As per claim 20, Greef teaches the apparatus of claim 16, further comprising:

"means for expanding the class hierarchy horizontally by adding a class to the lower

level class; and means for inheriting of the attribute by the class" at Fig. 5, elements

298, 300 and Col. 12 lines 10-20.

As per claim 21, Greef teaches a computer program product, encoded in

computer readable media, comprising:

- "a first set of instructions, executable on a computer system, configured to set a

  class hierarchy, wherein the class hierarchy comprises an upper level class and

  a lower level class, and the objects are members of at least one of the upper

  level class and the lower level class" at Col. 12 lines 10-50 and Fig. 3;

- "a second set of instructions, executable on the computer system, configured to

  assign an attribute to the top level class, wherein the attribute describes the

  objects" at Fig. 3, element 94;

- "a third set of instructions, executable on the computer system, configured to

  provide inheritance of the attribute by the lower level class" at Col. 12 lines 10-

  20;

- "wherein the attribute is within a first domain with regard to the upper level class"

  at Fig. 2, elements 54, 56, 58, 60 and Fig. 3 element 94.

As per claim 22, Greef teaches the computer program product of claim 21, further comprising: "a fourth set of instructions, executable on the computer system, configured to assign an attribute to the lower level class, the attribute describing an object that is a member of the lower level class" at Fig. 3, elements 96, 98.

As per claim 23, Greef teaches the computer program product of claim 21, wherein "the attribute comprises a distinctive domain value set" at Fig. 3, elements 94, 96, 98.

As per claim 24, Greef teaches the computer program product of claim 21, wherein "the class hierarchy further comprises a class below the lower level class in the class hierarchy, and further comprising: a fourth set of instructions, executable on the computer system, configured to provide inheritance of the attribute by the class" at Figs. 4-5, elements 286, 288.

As per claim 25, Greef teaches the computer program product of claim 21, further comprising: "a fourth set of instructions, executable on the computer system, configured to expand the class hierarchy horizontally by adding a class to the lower level class; and a fifth set of instructions, executable on the computer system, configured to provide inheritance of the attribute by the class" at Figs. 4-5 elements 286, 288.

As per claim 26, Greef teaches the method of arranging objects of claim 1, further comprising: "associating the upper level class with a first domain value set" at Fig. 2, elements 54, 56, 58, 60 and Fig. 3 element 94, and "associating the lower level class with a second domain value set" at Fig. 2, element 60 and Fig. 3, element 96.

As per claim 27, Greef teaches the method of arranging objects of claim 26, wherein "another attribute is within a second domain with regard to the lower level class" at Col. 12 lines 15-22.

As per claim 28, Greef teaches the method of arranging objects of claim 27, wherein "the another attribute is an overriding attribute" at Col. 12 lines 15-22.

As per claim 29, Greef teaches the method of arranging objects of claim 27, further comprising: "superceding the attribute with the another attribute, wherein the superceding is performed if the second domain is different from the first domain" at Col. 12 lines 15-22.

As per claim 30, Greef teaches the method of arranging objects of claim 29, further comprising: "restricting the first domain value set to the second domain value set" at Col. 12 lines 35-50.

As per claim 31, Greef teaches the method of arranging objects of claim 1, further comprising: "associating an item to a class within the class hierarchy such that all entries of a record of the item are non-empty" at Col. 32 lines 20-33.

As per claim 32, Greef teaches the hierarchical class architecture of objects of claim 6, further comprising: "a first domain value set; and a second domain value set, wherein the upper level class is associated with the first domain value set, and the lower level class is associated with the second domain value set" at Figs. 2-3.

As per claim 33, Greef teaches the hierarchical class architecture of objects of claim 32, further comprising: "another attribute, wherein the another attribute within a second domain with regard to the lower level class" at Col. 12 lines 15-22.

As per claim 34, Greef teaches the hierarchical class architecture of objects of claim 33, wherein "the another attribute is an overriding attribute" at Col. 12 lines 15-22.

As per claim 35, Greef teaches the hierarchical class architecture of objects of claim 33, wherein, "the another attribute is configured to supercede the attribute, and the another attribute supercedes the attribute if the second domain is different from the first domain" at Col. 12 lines 15-22.

As per claim 36, Greef teaches the hierarchical class architecture of objects of claim 35, wherein "the first domain value set is restricted to the second domain value set" at Col. 12 lines 35-50.

As per claim 37, Greef teaches the hierarchical class architecture of objects of claim 6, further comprising: "an item having a record with a plurality of entries, wherein the item is associated to a class within the class hierarchy such that the entries are non-empty" at Col. 32 lines 20-33.

As per claim 38, Greef teaches the computer system of arranging objects of claim 11, wherein "the computer code is further configured to cause the processor to: associate the upper level class with a first domain value set, and associate the lower level class with a second domain value set" at Fig. 2.

As per claim 39, Greef teaches the computer system of arranging objects of claim 38, wherein "another attribute is within a second domain with regard to the lower level class" at Col. 12 lines 15-22.

As per claim 40, Greef teaches the computer system of arranging objects of claim 39, wherein "the another attribute is an overriding attribute" at Col. 12 lines 15-22.

As per claim 41, Greef teaches the computer system of arranging objects of

claim 39, wherein "the computer code is further configured to cause the processor to:

supercede the attribute with the another attribute, if the second domain is different from

the first domain" at Col. 12 lines 15-22.

As per claim 42, Greef teaches the computer system of arranging objects of

claim 41, wherein "the computer code is further configured to cause the processor to:

restrict the first domain value set to the second domain value set" at Col. 12 lines 35-50.

As per claim 43, Greef teaches the computer system of arranging objects of

claim 11, wherein "the computer code is further configured to cause the processor to:

associate an item to a class within the class hierarchy such that all entries of a record of

the item are non-empty" at Col. 32 lines 20-33.

As per claim 44, Greef teaches the computer system of arranging objects of

claim 16, wherein "the computer code is further configured to cause the processor to:

associate the upper level class with a first domain value set, and associate the lower

level class with a second domain value set" at Figs. 2-3.

As per claim 45, Greef teaches the apparatus of arranging objects of claim 44,

wherein "another attribute is within a second domain with regard to the lower level

class" at Col. 12 lines 15-22.

As per claim 46, Greef teaches the apparatus of arranging objects of claim 45,

wherein "the another attribute is an overriding attribute" at Col. 12 lines 15-22.

As per claim 47, Greef teaches the apparatus of arranging objects of claim 45,

further comprising: "means for superceding the attribute with the another attribute,

wherein the superceding is performed if the second domain is different from the first domain" at Col. 12 lines 15-22.

As per claim 48, Greef teaches the apparatus of arranging objects of claim 47, further comprising: means for restricting the first domain value set to the second domain value set" at Col. 12 lines 35-50.

As per claim 49, Greef teaches the apparatus of arranging objects of claim 16, further comprising: "means for associating an item to a class within the class hierarchy such that all entries of a record of the item are non-empty" at Col. 32 lines 20-33.

As per claim 50, Greef teaches the computer program product of claim 21, further comprising: "means for associating the upper level class with a first domain value set, and means for associating the lower level class with a second domain value set" at Fig. 2.

As per claim 51, Greef teaches the computer program product of claim 50, wherein "another attribute is within a second domain with regard to the lower level class" at Col. 12 lines 15-22.

As per claim 52, Greef teaches the computer program product of claim 51, wherein "the another attribute is an overriding attribute" at Col. 12 lines 15-22.

As per claim 53, Greef teaches the computer program product of claim 51, further comprising: "means for superceding the attribute with the another attribute, if the second domain is different from the first domain" at Col. 12 lines 15-22.

As per claim 54, Greef teaches the computer program product of claim 53,

further comprising: "means for restricting the first domain value set to the second

domain value set" at Col. 12 lines 35-50.

As per claim 55, Greef teaches the computer program product of claim 21,

further comprising: "means for associating an item to a class within the class hierarchy

such that all entries of a record of the item are non-empty" at Col. 32 lines 20-33.

Response to Arguments

6.   Applicant's arguments filed October 16, 2003 have been fully considered but they

are not persuasive. The examiner respectfully traverses applicant's arguments.

Applicant argued that Greef does not teach: "the first attribute is within a first

domain with regard to the upper level class". On the contrary, at Fig. 3, Greef teaches

the attribute "CPU speed" associated with the upper level class "Personal Computers",

wherein the attribute "CPU speed" is within a first domain ranging from 48Mhz to

400Mhz (See Fig. 2, element 60). This is consistent with applicant's definition for

attribute's domain at page 1 of the specification recited below:

> "In the case of personal computers, an attribute for "microprocessor speed" can
>
> exist, with the domain for "microprocessor speed" being "greater than 250
>
> Megahertz (MHz)"." (Applicant's specification page 1, lines 10-12.)

In response to applicant's argument that Greef is nonanalogous art, it has been

held that a prior art reference must either be in the field of applicant's endeavor or, if

not, then be reasonably pertinent to the particular problem with which the applicant was

concerned, in order to be relied upon as a basis for rejection of the claimed invention.

See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both

Greef and applicant's invention direct to the method for arranging object into

hierarchical class architecture with attributes assigned to each class (See Geef's Fig. 4

and Applicant's Fig. 1). Both Greef and Applicant's invention are used to describe a

product stored in a hierarchical organized database (See Greef Col. 1 lines 15-30 and

Applicant's specification page 1 lines 5-17.) Therefore, the Greef reference is in the field

of applicant's endeavor and pertinent to the particular problem with which the applicant

was concerned.

In light of the foregoing arguments, the 35 U.S.C 102 rejection is hereby

sustained.

Conclusion

7.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh B. Pham whose telephone number is (703) 308-7299. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (703) 305-9790. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)746-7240.

Khanh B. Pham
Examiner
Art Unit 2177

KBP
January 5, 2004

JEAN R. HOMERE
PRIMARY EXAMINER